

WHAT IS CLAIMED IS:

- 1        1. A signal processor, comprising:  
2            a signal processing unit covered with a vacuum insulation  
3 layer in a vacuum vessel;  
4            a cooling mechanism that cools said signal processing unit;  
5            a getter material of a heat-activation type that controls  
6 increase of gas pressure inside said vacuum insulation layer;  
7            a heater that heats to activate said getter material, and;  
8            an electrification controller that switches ON said heater  
9 in advance before cooling begins.  
10
- 1        2. The signal processor according to Claim 1, wherein said  
2 signal processing unit comprises:  
3            a band-pass filter for selecting a predetermined signal from  
4 a receiving signal input from an antenna terminal; and  
5            a low noise amplifier for amplifying an output from said  
6 band-pass filter to a predetermined level with low noise.
- 1        3. The signal processor according to Claim 1, wherein said  
2 electrification controller comprises:  
3            a relay that switches electrification either to said cooling  
4 mechanism or said heater; and a sequencer that controls said relay.  
5
- 1        4. The signal processor according to Claim 1, wherein;  
2            all or a part of wirings of said signal processing unit makes  
3 up of a superconductive material, and  
4            said cooling mechanism has a capability to cool said signal  
5 processing unit until said superconductive material becomes in

6 a superconductive state.

1 5. The signal processor according to Claim 4, wherein said  
2 superconductive material is a high-temperature superconductor  
3 having superconductive characteristics at a high temperature.

1 6. A signal processor, comprising:

2 a signal processing unit covered with a vacuum insulation  
3 layer in a vacuum vessel;

4 a cooling mechanism that cools said signal processing unit;

5 a getter material of a heat-activation type that controls  
6 increase of gas pressure inside said vacuum insulation layer;

7 a heater that heats to activate said getter material, and;

8 an electrification controller that selectively switches ON  
9 said heater when cooling begins and selectively switches ON said  
10 cooling mechanism after a predetermined condition is established.

1 7. The signal processor according to Claim 6, wherein "after  
2 said predetermined condition is said established" equals "after  
3 a passage of a certain period of time".

1 8. The signal processor according to Claim 6, wherein said  
2 signal processing unit comprises:

3 a band-pass filter for selecting a predetermined signal from  
4 a receiving signal input from an antenna terminal; and

5 a low noise amplifier for amplifying an output from said  
6 band-pass filter to a predetermined level with low noise.

1 9. The signal processor according to Claim 6, wherein said

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5 a getter material of a heat-activation type that controls  
6 increase of gas pressure inside said vacuum insulation layer; and  
7 a heater that heats to activate said getter material, and  
8 wherein;  
9 said heater is selectively switched ON when cooling begins  
10 and said cooling mechanism is selectively switched ON after a  
11 predetermined condition is established.

1 14. The cooling method of the signal processor according to  
2 Claim 13, wherein "after said predetermined condition is said  
3 established" equals "after a passage of a certain period of time".

1 15. The cooling method of the signal processor according to  
2 Claim 13, implementing a change-over of switching by using a  
3 sequence program.

1 16. A radio receiver comprising:  
2 a signal processing unit covered with a vacuum insulation  
3 layer;  
4 a cooling mechanism that cools said signal processing unit;  
5 a getter material of a heat-activation type that controls  
6 increase of gas pressure inside said vacuum insulation layer;  
7 a heater that heats to activate said getter material; and  
8 an electrification controller that switches ON said heater  
9 in advance before cooling begins.  
10

1 17. A radio receiver, comprising:  
2 a signal processing unit covered with a vacuum insulation  
3 layer;

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4 a cooling mechanism that cools said signal processing unit;  
5 a getter material of a heat-activation type that controls  
6 increase of gas pressure inside said vacuum insulation layer;  
7 a heater that heats to activate said getter material, and;  
8 an electrification controller that selectively switches ON  
9 said heater when cooling begins and selectively switches ON said  
10 cooling mechanism after a predetermined condition is established.

1 18. A cooling method of a radio receiver that comprises:  
2 a signal processing unit covered with a vacuum insulation  
3 layer;  
4 a cooling mechanism that cools said signal processing unit;  
5 a getter material of a heat-activation type that controls  
6 increase of gas pressure inside said vacuum insulation layer; and  
7 a heater that heats to activate said getter material, and  
8 wherein;  
9 said heater is switched ON in advance before cooling begins.

10  
1 19. A cooling method of a radio receiver that comprises:  
2 a signal processing unit covered with a vacuum insulation  
3 layer;  
4 a cooling mechanism that cools said signal processing unit;  
5 a getter material of a heat-activation type that controls  
6 increase of gas pressure inside said vacuum insulation layer; and  
7 a heater that heats to activate said getter material, and  
8 wherein;  
9 said heater is selectively switched ON when cooling begins  
10 and said cooling mechanism is selectively switched ON after a  
11 predetermined condition is established.

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